Small Business Innovation Research/Small Business Tech Transfer

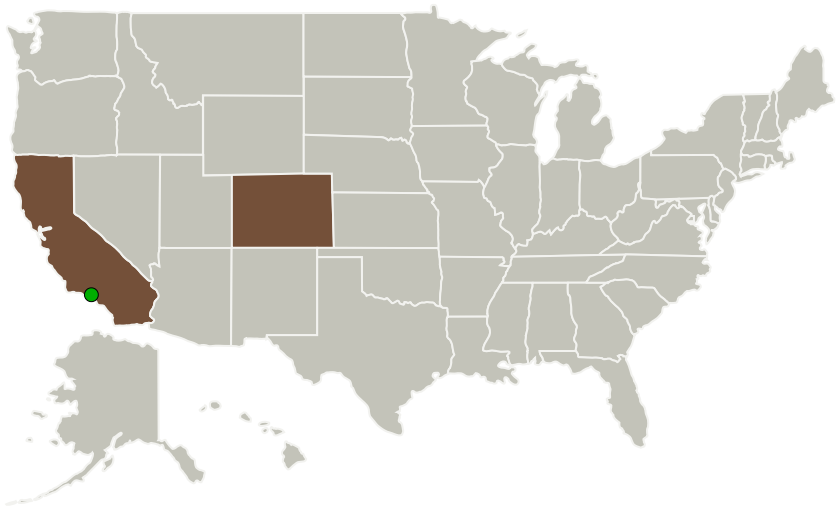
An Outrigger Component for a Deployable Occulter System, Phase I

Completed Technology Project (2013 - 2013)

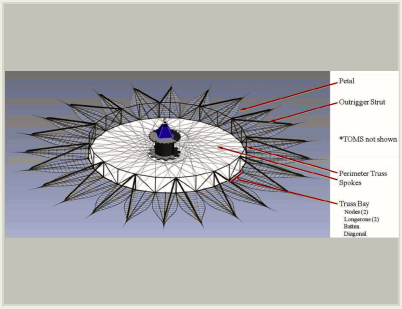
Project Introduction

Roccor, LLC, propose the development of a highly novel and structurally efficient outrigger strut design feature that efficiently integrates with a large deployable starshade or, occulter, currently under development by NASA-JPL. The starshade acts as an external occulter to suppress the incoming starlight sufficiently for detecting and characterizing exoplanets. Key to the performance of the occulter is achieving sufficiently high out-of-plane stiffness to withstand maneuvering loads as well as meet the shape-tolerance requirement. Roccor's proposed effort utilizes a highly novel deployable outrigger system that seamlessly integrates into the current deployable occulter design. Further, Roccor's approach leverages our considerable background in elastically stowed and deployed composite structures.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Roccor, LLC	Lead Organization	Industry	Longmont, Colorado
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California



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Primary U.S. Work Locations	
California	Colorado

Project Transitions

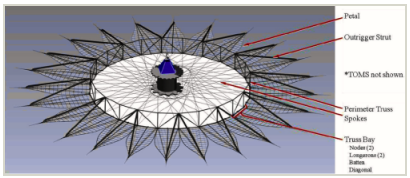
May 2013: Project Start

November 2013: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140446)*

Images



Project Image
An Outrigger Component for a Deployable Occulter System *(https://techport.nasa.gov/image/127139)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Roccor, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

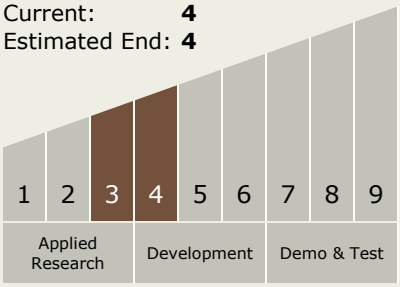
Carlos Torrez

Principal Investigator:

William Francis

Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.3 Mechanical Systems
    - TX12.3.1 Deployables, Docking, and Interfaces

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System